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**File Code:** 3400 **Date:** January 31, 2000
**Route To:** *

**Subject:** National Risk Map Treatment Map Options and Update

**To:** Leonard Lucero

As requested the following includes background and summary of our recent regional meeting and a proposal for developing our treatment map. Also attached are the minutes of our recent meeting in Albuquerque.

## Background

Following the most recent National Risk Map team meeting in Coeur D'Alene, Idaho, Regions were asked to 1) revise, if needed or desired, their mortality layers (by 12/15/99) and 2) develop a treatment map (by 6/1/00). We decided that we did need to revise our mortality layers and due to other workload constraints negotiated a 1/15/00 due date. We received that extension and our revised layers were sent to Joe Lewis by January 15. On January 24-26 we met to discuss how to proceed with the treatment map exercise. Unfortunately no consistent national process was outlined at Coeur D'Alene, though that was one of the stated goals of the meeting. The only instruction we received was that we are to use our whole mortality layer (not just particular watersheds as was first proposed last May) and allocate every polygon designated to be at risk to one of three treat or no treat categories. These categories are 1) Action warranted, effective treatment options available to reduce risk of mortality so that less than 25 percent of the trees would die in 15 years; 2) Action warranted by constrained, effective treatment options available but implementation unlikely because of constraints; 3) Action not warranted, effective treatment options not available or risk acceptable. As you requested, we outlined several alternatives during our regional meeting last week. We also selected a preferred alternative. Descriptions of these options follow.

## Treatment Map Development Options

We came up with 4 options for development our Treatment layer. As an aside, I canvassed the other western regions (except R10) and presented the state of their treatment maps to the group. Descriptions of what some of them are doing are in the meeting notes. What follows is a brief description of each option that our team developed.

Option 1. Use risk map as is, that is use our most recent revision. Identify constraining factors such as Wilderness, threatened and endangered species that could restrict treatment options for each "pest". Go to each agency or administrative unit and determine percentage of area by unit taken up by these constraining factors. Calculate by administrative unit or ownership what percent of area would fall within each of the three treatment categories. Randomly allocate risk pixels by unit according to these percentages. Advantage of this method is that it would not overlay spatially explicit information, such as Wilderness or T&E with non-spatially explicit information from our mortality layer. Disadvantages include that it would be time consuming to


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go out to each forest and the methodology for randomly assigning the pixels might be pretty time consuming for Steve. We estimated that this alternative would require **22 person weeks**. We could also have potential problems if others overlay our map with other layers, such as a roadless map since using these method treatment areas could, through the random allocation process, fall into wilderness or designated roadless areas etc. Even with a disclaimer on the map that could create confusion.

Option 2. Use risk map as is. Overlay risk map with constraining layers. Allocate polygons as they fall. Advantage of this method is its ease of development. We estimated that this alternative would take the least amount of time for us to implement **10 person weeks**. We also would not end up with the problem of treatment areas falling into wilderness etc. The main disadvantage is that it overlays spatially explicit information with information that isn't. Actual locations of treatable areas would not be spatially explicit.

Option 3. Revise mortality again then start treatment analysis. Because of the constant problem we run into with this treatment exercise in overlaying spatially explicit information with our randomly generated risk layer we considered redoing the mortality map. In this one we would investigate other methods for developing a more spatially explicit risk map. We discussed looking into use of FIA data or other information to refine our risk layer. Once the mortality map was revised again we would use the same method as in option 2 to allocate polygons. The obvious advantage is that we would then have a better layer with which to look at developing a treatment map from. The main disadvantage would be the time it would take at this time to do this. We estimated that this option would take us **52 person weeks** to complete. We also expressed frustration with the fact that when our original risk layers were completed, we were not informed that a treatment map would be developed from them. This was a later outgrowth of the risk map project. Further when the option to revise the risk map was extended the timeframes were not sufficient for us to implement this option. However two regions have now chosen to do just this, Regions 5 and 6 and have received permission to go well past the original December 15 deadline for mortality map revision. We also discussed that at this point we weren't sure if there were better options available to us for revising our risk map in a timely fashion.

Option 4. This alternative is a blend of options 1 and 2. We would determine the percent acreage falling into each category as in option 1, and then spatially assign the "correct" number of pixels to administratively appropriate areas. This alternative grew out of a concern that with alternative 1, risk polygons in wilderness could be assigned as treatable when in reality they aren't. The main advantage of this one is the latter. We estimated that this one would take **30 person weeks** to complete.

Preferred Option. After some discussion the unanimous vote was for Option 2. We are intrigued with some of the work that Regions 5 and 6 were doing however we felt that with our existing staff and time that it would be best to wait and see how the process goes for them before undertaking such an initiative ourselves. Regions 1 and 4 will use this same process that we are recommending. We would also like to see the WO identify a preferred methodology, as was the original goal of our meeting in Idaho so that we don't spend a lot of time on a product that we would have to alter at a later date.

| **Proposal for Development of Action Plan –** | **Due** |
|---|---|
| 1) Write Summary Report for Leonard. | 2/01/00 |
| 2) Conference call w/Leonard. | 2/03/00 |
| 3) Make list of layers. | 2/03/00 |
| 4) Letter to forests saying we will be contacting them requesting layers. | 2/08/00 |
| 5) Acquire Layers from Partners. | 3/15/00 |
| Revised Risk Map | |
| Constraint Layers | |
| Ownership for NM | |
| 6) Develop methodology for assigning treatment categories for each agent. | 3/01/00 |
| 7) Generate product. | 5/19/00 |
| 8) Send to Lowell. | 6/01/00 |

Please give me a call if you have questions or advise Deb and myself whether or not you would like us to proceed with option 2 or if you'd like to meet with us via a conference call or other means.

*/s/ Jill L. Wilson*

JILL L. WILSON
Acting Zone Leader

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